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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
08/909, 117	08/11/97	MORANDO	J MJV106BCON

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IM41/0409

EXAMINER	
YEE, D	ART UNIT

1742

DATE MAILED: 04/09/99

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

2-26-99

Responsive to communication(s) filed on 2-26-99

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1 to 12, 34 to 38 and 42 to 49 is/are pending in the application.
Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1 to 12, 34 to 38 and 42 to 49 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner. *Abstract + Brief description are needed in the Specification.*

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of Reference Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

-SEE OFFICE ACTION ON THE FOLLOWING PAGES-

Response to Arguments

1. Applicant's arguments with respect to claims 1-12, 34 to 38 and 42 to 49 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 46 and 49 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites "substantially free of silicon" and Claim 46 recites "substantially free of titanium" which are negative limitations that did not appear in the specification as filed, and hence would introduce new concepts, see *Ex parte Grasselli et al*, 231 USPQ 393. Moreover, claim 49 recitation of "Chromium 0.5-30%" clearly raises a new matter issue since no clear descriptive support exists for this generic range in the original disclosure, see pages 24-25 to the specification.

3. Claims 1-12, 34 -38 and 42-49 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The disclosure is enabling only for claims limited to an article of equipment made from an alloy material comprising alloying constituents with specific wt% ranges, as evident by pages 23 to 25 of the specification. Note that claims recite an alloy material comprising of C, Cr, W, Mo, V, Nb, Co, B, Fe and/ or Mn without wt% ranges and hence elements can be present in any amount (e.g. 10%C, 0.5%Cr, 0.1 %W, 20%Mo etc) which would not be representative of the working examples in the specification. Hence claims are of a breadth which are not adequately supported by its specification. See *In re Borkowski et al.*, (CCPA 1979) 422f2d904, 164 USPQ 642. Also note that the fact that the terms in a claim are the same as those in the specification does not prevent the claim from being unduly broad if they define subject matter not described to be the actual invention by means of adequate representative examples. See *Ex parte Gardner* 157USPQ 162; and *In re Cavalito et al.*, 127 USPQ 202.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12, 34-38 and 41-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Way et al.(US Patent No. 4,034,588)

The prior art teaches an article made from an alloy material containing C, Cr, W, Mo, V, Nb, Co, B, Fe and Mn wherein the total sum of V, W and Mo is over 12wt%, see claim 1 column 6. Also Way et al teaches an alloy with constituents whose wt % ranges overlap those recited by one or more of the claims, see claim 2, column 6. It has been held that one of ordinary skill in the art at the time the invention was made would have considered the claimed compositions to have been obvious because overlapping ranges in a composition are considered to establish a *prima facie* case of obviousness, see *In re Malagari*, 182 USPQ549.

Although prior art teaches an alloy containing up to 1.5wt% whereas the claim recites an alloy being substantially free of Si, such would not be a patentable difference. Note that prior art teaches a lower Si limit of "up to" which is equivalent to zero; hence prior art does not require the presence of Si. Also prior art discloses specific examples containing 0.13-0.97%Si which would be within applicant's claimed limitation because "substantially free" permits tolerance of some Si.

Even though prior art does not teach an article of equipment intended to be submerged in molten zinc, molten aluminum and mixtures thereof as recited by the claim, such would not be a patentable distinction since it is merely applicant's future and intended use. (1)

Response to Arguments

6. Applicant's arguments filed February 26, 1999 have been fully considered but they are not persuasive. Applicant submitted that although Mn is included in a few of the Way examples, it is

not mentioned within the general description of the Way composition. It is the examiner's position that the Way examples contain Mn ranging from 0.06 to 0.95% and perhaps are present as an impurity since it is not listed as an alloying constituent in the broad teaching. In any event, the Mn content in the Way examples meet applicant's claim because the recited limitation merely requires the presence of Mn in any amount.

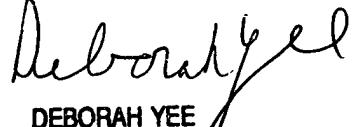
Way does not require Zr yet claims 12 and 34 require more than but less than 6% Zr. It is the examiner's position that it would be obvious for one skilled in the art to include or substitute Zr for Cb, V, and Ti because all these elements have similar chemistry make-up and are from the same periodic table family. It is common practice and well known in the art to use the elements interchangeably to form carbides to increase surface hardness of alloys. Moreover, it should be pointed out that applicant has not shown in the specification that Zr is somehow critical or productive of new and unexpected results.

It was argued that applicant's claim 43 requires at least 4% V while Way provides no teaching on V content and certainly does not suggest at least 4% V. It is the examiner's position that similar to claim 1 of the present invention, Way teaches V present in an undefined wt% range, and is used at a level "for imparting the qualities generally associated therewith without detrimentally affecting the hot hardness and resistance to erosion of said alloy", see claim 1, column 6. Note that applicant's specification does not state that the V preferred amount is at least 4%, and that 0 to 6% (see page 23 to 25 of the specification) is permissible. Also claim 1 broadly recites V present in any amount. While claim 43 recites at least 4% V, there is nothing to

show that it is critical or that it involves anything more than judicious selection and hence fails to define novelty over the prior art. Same argument applies to Iron content recited in claim 11.

In regard to the Co range of greater than zero but less than 20% recited in claim 9, note that Way teaches 5 to 65% Co , see claim 1, column 6.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is (703) 308-1102.



DEBORAH YEE
PRIMARY EXAMINER
GROUP 1300

dy

March 12, 1999